BLUE SEAL®

EVOLUTIONSERIES

Gas Chargrills

G592 / G594 / G596 / G598

Service Manual

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WARNING: ALL INSTALLATION AND SERVICE REPAIR WORK MUST BE CARRIED OUT BY QUALIFIED PERSONS ONLY.

IMPORTANT: MAKING ALTERATIONS MAY VOID WARRANTIES AND APPROVALS.

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Contents

This manual is designed to take a more in depth look at the G59 Chargrills for the purpose of making the units more understandable to service people.

There are settings explained in this manual that should never require to be adjusted, but for completeness and those special cases where these settings are required to change, this manual gives a full explanation as to how, and what effects will result.

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Model Numbers covered in this Specification

G592	300mm wide 1 burner gas Chargrill
G594	600mm wide 2 burner gas Chargrill
G596	900mm wide 3 burner gas Chargrill
G598	1200mm wide 4 burner gas Chargrill

Gas Supply (non-UK units)

	Natural Gas				LP Gas (Propane)			
	G592	G594	G596	G598	G592	G594	G596	G598
Input Rating (N.H.G.C.)	33 Mj/hr 31,270 Btu/hr	66 MJ/hr 62,500 Btu/hr	100 Mj/hr 94,700 Btu/hr	133 Mj/hr 126,000 Btu/hr	33 Mj/hr 31,270 Btu/hr	66 MJ/hr 62,500 Btu/hr	100 Mj/hr 94,700 Btu/hr	133 Mj/hr 126,000 Btu/hr
Supply Pressure	1.13 - 3.40 kPa (4.5" - 13.5 w.c.)				2.75 - 3.40 kPa (11" - 13.5" w.c.)			
Burner Operating Pressure	1.0 kPa (4" w.g.)	0.95 kPa (*) (3.8" w.g.)			2.5 kPa (9.8" w.g.)	2.6 kPa (*) (10" w.g.)		
Gas Connection	$^1/_2$" BSP Male	$^3/_4$" BSP Male			$^1/_2$" BSP Male	$^3/_4$" BSP Male		

Gas Supply (UK units)

		Natural Gas (G20)				Propane (G31)			
		G592	G594	G596	G598	G592	G594	G596	G598
Heat Input (nett)	Nominal	8.8 kW	18.0 kW	27.0 kW	36.0 kW	8.8 kW	18.0 kW	27.0 kW	36.0 kW
	Reduced	3.5 kW	6.0 kW	9.0 kW	18.0 kW	3.7 kW	6.4 kW	9.6 kW	12.8 kW
Gas Rate (nett)	Nominal	0.93 m^3/hr	1.90 m^3/hr	2.86 m^3/hr	3.81 m^3/hr	0.68 kg/hr	1.40 kg/hr	2.10 kg/hr	2.80 kg/hr
	Reduced	0.37 m^3/hr	0.63 m^3/hr	0.95 m^3/hr	1.27 m^3/hr	0.29 kg/hr	0.50 kg/hr	0.75 kg/hr	0.99 kg/hr
Supply Pressure		20 mbar				37 mbar			
Burner Operating Pressure		10.6 mbar	10 mbar (*)			25 mbar	26 mbar (*)		
Gas Connection		$^1/_2$" BSP Male	$^3/_4$" BSP Male			$^1/_2$" BSP Male	$^3/_4$" BSP Male		

Injector Sizes

	Natural Gas (G20)		LP Gas (Propane) (G31)	
	G592	**G594 G596 G598**	**G592**	**G594 G596 G598**
Main Burner Injectors	2.70 mm		1.65 mm	
Pilot Burner Injectors	0.35	0.41	0.25	0.25

Unit Weights (Net)

G592	TBD
G594	TBD
G596	TBD
G598	TBD

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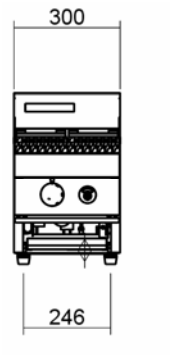
External Dimensions

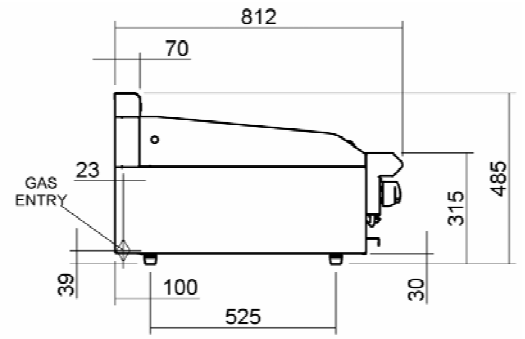
G592-B

NOTE: G592 are only available in Bench Model (- B) Option.

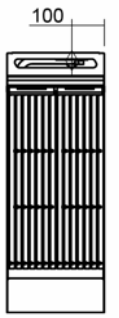
Front



Side



Plan



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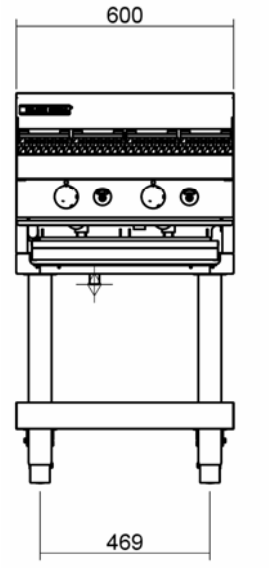

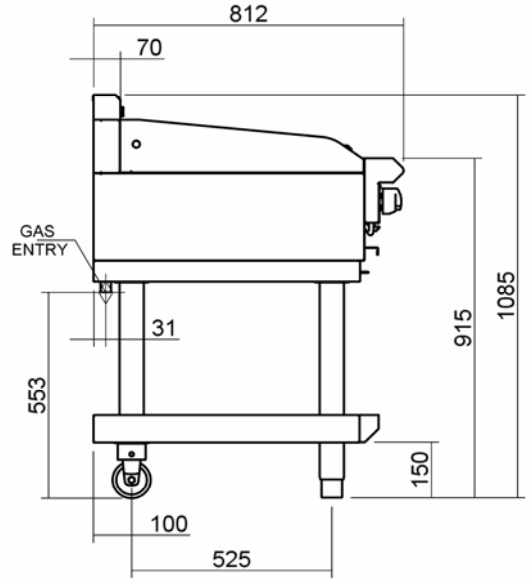

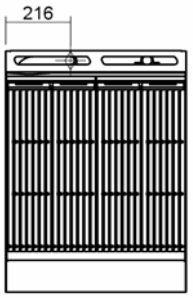

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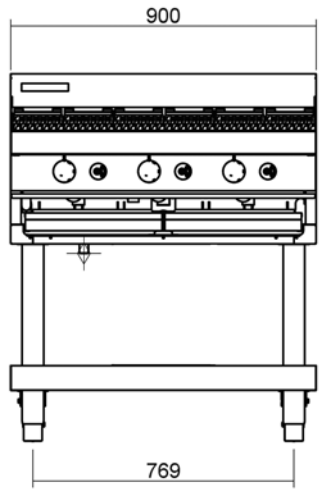

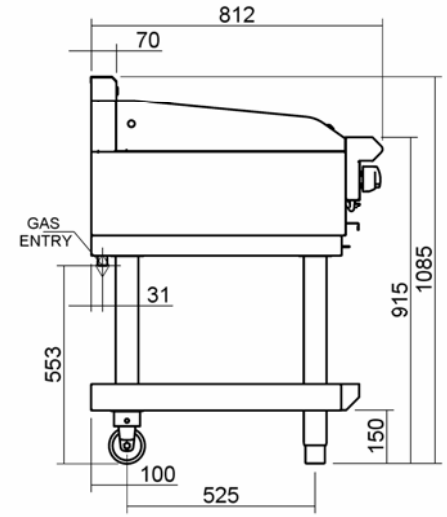

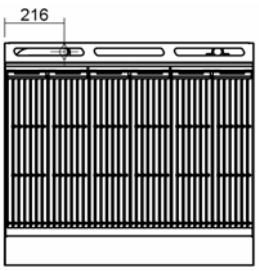

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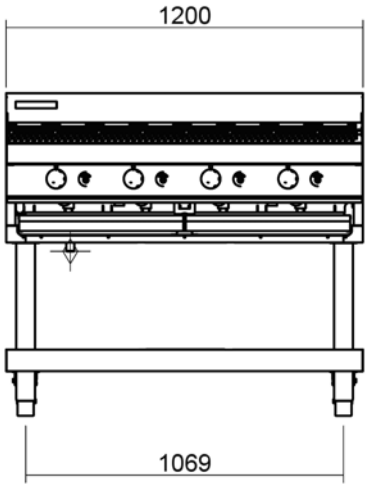

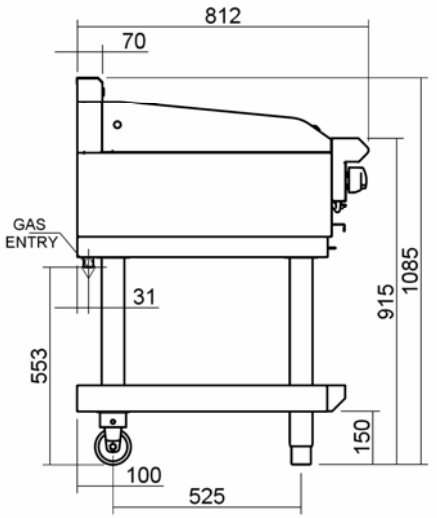

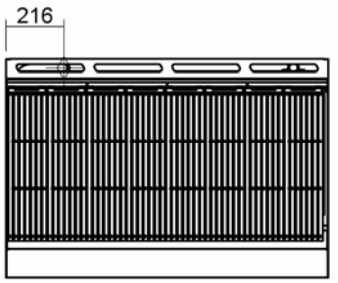

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2 Installation

Installation Requirements

NOTE:

- **It is most important that this appliance is installed correctly and that operation is correct before use. Installation shall comply with local electrical, gas, health and safety requirements.**
- **This appliance shall be installed with sufficient ventilation to prevent the occurrence of unacceptable concentrations of health harmful substances in the room, the appliance is installed in.**

Blue Seal chargrills are designed to provide years of satisfactory service, and correct installation is essential to achieve the best performance, efficiency and trouble-free operation.
This appliance must be installed in accordance with National installation codes and in addition, in accordance with relevant National / Local codes covering gas and fire safety.

Australia:	- AS5601	- Gas Installations.
New Zealand:	- NZS5261	- Gas Installation.
United Kingdom:	- Gas Safety (Installation & Use) Regulations 1998.	
	- BS6173	- Installation of Catering Appliances.
	- BS5440	- 1 & 2 Installation Flueing & Ventilation.
Ireland:	- IS 820	- Non - Domestic Gas Installations.

Installations must be carried out by authorised persons only. Failure to install equipment to the relevant codes and manufacturer's specifications shown in this section will void the warranty. Components having adjustments protected (e.g. paint sealed) by manufacturer are only allowed to be adjusted by an authorised service agent. They are not to be adjusted by the installation person.

Unpacking

- Remove all packaging.
- Check equipment and parts for damage. Report any damage immediately to the carrier and distributor.
- Remove protective plastic coating from the side panels.
- Check that the following parts have been supplied with the chargrill:
  - 1 x Gas Regulator.
  - 1 x Gas Type Conversion Kit.
- Report any deficiencies to the distributor who supplied the chargrill.
- Check that the available gas supply is correct to that shown on the rating plate attached to the underside of the R/H side, front hob lower trim.

Location

1. Installation must allow for a sufficient flow of fresh air for the combustion air supply.

Combustion Air Requirements				
	G592	**G594**	**G596**	**G598**
Natural Gas (G20)	$9m^3$/hr	$18m^3$/hr	$27m^3$/hr	$36m^3$/hr
LPG/Propane (G31)	$9m^3$/hr	$18m^3$/hr	$26m^3$/hr	$35m^3$/hr

2. Installation must include adequate ventilation to prevent dangerous build up of combustion products.
3. Never directly connect a ventilation system to the appliance flue outlet.
4. Position the chargrill in its approximate working position.
5. All air for burner combustion is supplied from underneath the appliance. The legs must always be fitted and no obstructions placed on the underside or around the base of the appliance, as obstructions will cause incorrect operation and/or failure of the appliance.

NOTE: Do not obstruct or block the appliances flue. Never directly connect a ventilation system to the appliance flue outlet.

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Clearances

NOTE: Only non-combustible materials can be used in close proximity to this appliance.

	Combustible Surface	Non Combustible Surface
Left / Right hand side	200 mm	0 mm
Rear	100 mm	0 mm

Assembly

NOTE:

- **All Models will require assembly. Refer to the 'Fitting of Adjustable Feet / Rollers to Leg Stand Units' information below for assembly instructions.**
- **This appliance is fitted with adjustable feet to enable the appliance to be positioned securely and level. This should be carried out on completion of the gas connection. Refer to the 'Gas Connection Section'.**

Optional Accessories (Refer to Replacement Parts List)

- Plinth Kit. For installation details, refer to the instructions supplied with each kit.

Bench Models

1. Check that all the feet (or castors) are securely fitted.
2. Adjust the feet to make the Chargrill steady and level.

Fitting Leg Stand to Chargrill

1. Remove the grates, griddle plates and radiants from the chargrill.
2. Lower the Chargrill onto it's rear face.
3. Attach the four hob legs to the leg mounting positions on the underside of the chargrill. Secure each leg hand tight.
4. Align the four round cut out holes on the base tray with the four hob legs already fitted to the chargrill (Ensure that the base tray is orientated with the sloping edge of the base tray facing the front of the appliance.
5. Slot the base tray onto the four hob legs and push fully home.
6. Secure the base tray to the front chargrill legs by screwing the adjustable feet supplied, into the base of the front chargrill legs. Secure each adjustable foot, hand tight.
7. Fit the rear rollers to the rear leg ring plates and secure using the locating bolts supplied and tighten bolts using a 10mm spanner.
8. Lift the chargrill back onto its legs.
9. Refit all the grates, griddle plates and radians to the chargrill, ensuring that they are correctly fitted.

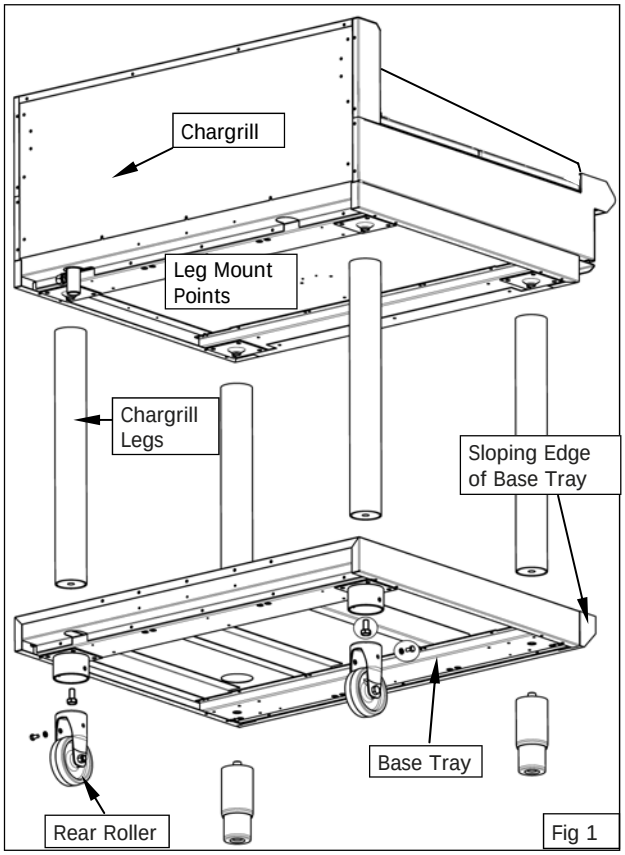

Fig 1

NOTE: This appliance is fitted with adjustable feet / rear rollers to enable the appliance to be positioned securely and level. This should be carried out on completion of the gas connection. Refer to the 'Gas Connection' section.

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2 Installation

Gas Connection

NOTE: ALL GAS FITTING MUST ONLY BE CARRIED OUT BY AN AUTHORISED PERSON.

1. Blue Seal Chargrills do not require an electrical connection, as they function on the gas supply only.
2. It is essential that the gas supply is correct for the Chargrill to be installed and that adequate supply pressure and volume is available. The following checks should therefore be made before installation:
   a. **The Gas Type** the appliance has been supplied for is shown on coloured stickers located above the gas entry point and next to the rating plate. Check that these are correct for the gas supply the appliance is being installed for. The gas conversion procedure is detailed in the 'Gas Conversion and Specification' section of this manual.
   b. **The Supply Pressure** required for this appliance is shown in the "Specifications" Section of this manual. Check the gas supply to ensure that adequate supply pressure exists.
   c. **The Input Rate** of this appliance is shown on the Rating Plate and in the "Specifications" section of this manual. The input rate should be checked against the available supply line capacity. **Particular note should be taken if the Chargrill is being added to an existing installation.**

NOTE: It is important that adequately sized piping runs directly to the connection joint on the appliance with as few tees and elbows as possible to give maximum supply volume.

3. Fit the gas regulator supplied, into the gas supply line as close to the appliance as possible.
   The regulator connections are ¾" BSP female.
   The connection is ¾" BSP male.
   (Refer to the 'Specifications' section for the gas supply location dimensions).

NOTE: The gas pressure regulator provided with this appliance is convertible between Natural Gas and LPG and is already converted ex-factory to the gas type labelled beside the gas connection point. The <u>regulator outlet pressure is fixed ex-factory and it is NOT to be adjusted</u>.

4. A suitable joining compound which resists the breakdown action of LPG must be used on every gas line connection, unless compression fittings are used.

NOTE: A manual isolation valve must be fitted to the individual appliance supply line.

5. Correctly locate the appliance into its final operating position and using a spirit level, adjust the legs so that the unit is level and at the correct height.
6. Connect the gas supply to the appliance.
7. Check gas operating pressure is as shown in "Specifications" section.

<u>WARNING</u>:

CHECK CONNECTIONS FOR LEAKS WITH SOAPY WATER. DO NOT USE A NAKED FLAME.

8. Check all gas connections for leakages using soapy water or other gas detecting equipment.

NOTE: The operating pressure to be measured at the manifold test point and with two burners operating at the 'High Flame' setting. (With the exception of the G592 model which has one burner only).

9. Turn off the mains gas supply and bleed the gas out of the appliance gas lines.
10. Turn 'ON" the gas supply and the appliance.
11. Verify the operating pressure remains correct.

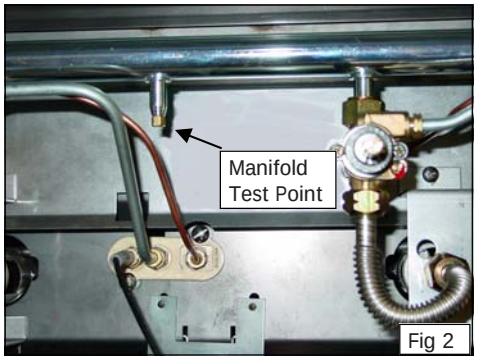

Fig 2

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Commissioning

1. Before leaving the new installation;
   a. Check the following functions in accordance with the operating instructions specified in the "Operation" section of the User Handbook supplied with the appliance.
      - Light the Pilot Burner.
      - Light the Main Burner.
      - Check the Low Fire Burner Operation.
      - Check the High Fire Burner Operation.

   b. Ensure that the operator has been instructed in the areas of correct lighting, operation, and shutdown procedure for the appliance.

2. The User Manual must be kept by the owner for future reference and a record of ***Date of Purchase***, ***Date of Installation*** and ***Serial Number of Unit*** recorded and kept with the manual. **(These details can be found on the rating plate attached to the underside of the R/H side, front hob lower trim. (Refer to the "Gas Connection" section).**

NOTE: If for some reason it is not possible to get the appliance to operate correctly, contact the supplier of this appliance.

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3 Operation

Note: A full user's operation manual is supplied with the product and can be used for further referencing of installation, operation and service.

3.1 Description of Controls

Gas Control Knobs

- OFF Position
- PILOT Burner
- HIGH Flame
- LOW Flame

Piezo Igniter (with burner flame viewing ports).

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3.2 Explanation of Control System

Safety System

The purpose of the safety system is to shut off the flow of gas if the pilot flame goes out. It is comprised of the flame itself, the thermocouple, and the flame failure gas valve.

The pilot flame is lit by holding in the gas control knob, which in turn temporarily pushes the plunger inside the safety valve open and allows gas to flow through. Once the burner is lit, the thermocouple will begin to generate millivolts (after about 10 to 30 seconds of being heated) and will energize the electromagnet inside the gas valve. Once energized the electromagnet holds the plunger inside the gas valve in the open position. The plunger has to have been pushed all the way in for the electromagnet to be able to hold it in place. If the burner flame goes out for some reason, the thermocouple will cool after about 10 to 30 seconds and stop generating millivolts. The electromagnet will then de-energize, and the plunger will snap shut, cutting off the flow of gas.

Detail of each component in the safety system is explained below.

Thermocouple

The thermocouple is a device that generates electricity when heat is applied to the tip.

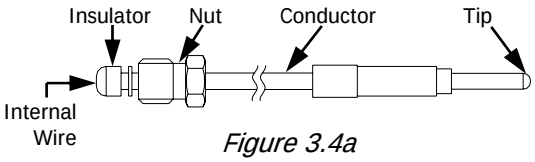

Figure 3.4a

The tip of the thermocouple is located in the pilot burner flame, and the nut at the other end of the thermocouple screws into the back of the gas valve. Inside the copper tubing is a wire which is joined at the tip but insulated from the rest of the tubing. These two parts (the copper tubing and wire) make up the "wiring" for an electrical circuit. When these two dissimilar metals, wire and tip, are heated an electrical voltage is produced. This type of thermocouple generates between 7 and 30 millivolts when heated in the pilot flame.

Electromagnetic Flame Failure Gas Valve

The purpose of the safety valve is to shut off the flow of gas if the pilot flame goes out.

Inside the body of the gas valve is an electromagnet connected to a spring loaded plunger. When the electromagnet is energized, it holds the plunger in, allowing gas to flow through the valve. When the electromagnet is de-energized, the plunger snaps to the closed position, stopping the flow of gas.

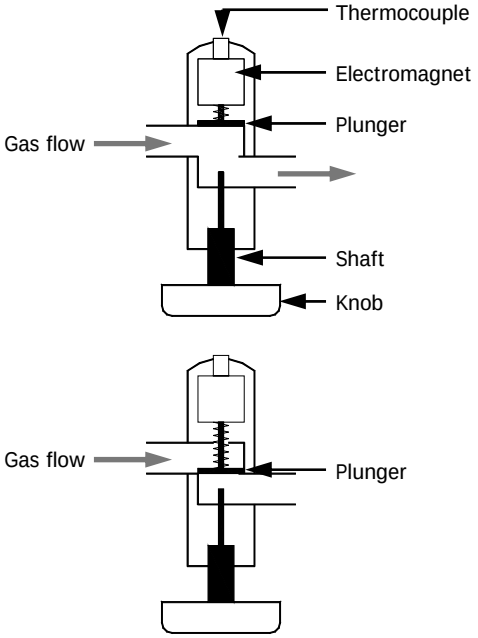

Figure 3.4b

Millivolts are provided to the electromagnet by the thermocouple (not shown) which generates millivolts when heated. The thermocouple screws into a fitting at the back of the gas valve to make an electric connection. By pressing in the gas control knob, the plunger can be temporarily held open while lighting. There's two reasons for this; gas has to flow through the safety valve to make it possible to light the pilot burner, and secondly the plunger has to be pushed all the way in for the electromagnet to hold it in. I.e.; the electromagnet is strong enough to hold the plunger in once there, but is not strong enough to pull it in by itself. Sometimes a problem with the flame not staying lit after releasing the button can be attributed to not pushing the plunger all the way in.

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4 Cleaning / Maintenance

CAUTION:

Always turn off the gas supply before cleaning.
This unit is not water proof.
Do Not use water jet spray to clean interior or exterior of this unit.

Routine Maintenance

To achieve the best results cleaning must be regular and thorough and all controls and mechanical parts checked and adjusted periodically by a competent serviceman. If any small faults occur, have them attended to promptly. Don't wait until they cause complete breakdown. It is recommended that a service check is conducted every six months.

Clean the chargrill regularly. A clean chargrill looks better, will last longer and will perform better. Carbonised grease on the surface or between the grates will hinder the transfer of heat from the cooking surface to the food. This will result in loss of cooking efficiency.

DO NOT use water on the grates, radiants and griddle plates while these items are still hot as warping and cracking may occur. Allow these items to cool down and then remove for cleaning. The entire top grates, inner radiants, burners and lower heat deflectors can be dismantled for cleaning.

NOTE:

- DO NOT use abrasive detergents, sharp scrapers, strong solvents or caustic detergents as they could corrode or damage the chargrill.
- In order to prevent the forming of rust on the grates, radiants and griddle plates, ensure that any detergent or cleaning material have been completely removed after each cleaning. The appliance should be switched on briefly to ensure the griddle plates become dry. Oil or grease should be spread over the grill surface in order to form a thin protective greasy film.

Radiants should not need cleaning as any grease or food will be burned off with the intense heat from the burners. The radiants can be removed if cleaning is necessary.

To keep your chargrill clean and operating at peak efficiency, follow the procedures below:-

After Each Use

Clean the griddle and chargrill castings with a wire brush or a flexible spatula to remove any build up of carbon.

Daily Cleaning

- The grease tray(s) should be checked and emptied frequently to prevent overflow and spillage. Remove the grease tray(s) while still warm so that the grease is in a liquid state. Empty any grease from the drawer and wash thoroughly in the same manner as any cooking utensil.
- Remove the griddle plate and grates and thoroughly clean the splash back, the interior and exterior surfaces of the chargrill with hot water, a detergent solution and a soft scrubbing brush.
- Dry the chargrill thoroughly with a dry cloth and polish with a soft dry cloth.
- Brush the the griddle and chargrill castings with a wire brush followed by wiping with a cloth to prevent accumulation of carbon.

Weekly Cleaning

NOTE: If the chargrill usage is very high, we recommend that the weekly cleaning procedure is carried out on a more frequent basis.

Grates (Cast Iron)

- Clean the grates thoroughly with a wire brush or a flexible spatula.
- A scraper tool can be used for the removal of stubborn carbon and deposits.
- Clean with hot water, a recommended detergent solution and a scrubbing brush. Dry all components thoroughly with a dry cloth.

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- The chargrill should be switched on briefly to ensure the grates becomes dry. A thin film of cooking oil should be spread over the grates in order to form a protective film.

Radiants (Cast Iron)

- Clean the radiants thoroughly with a wire brush or a flexible spatula.
- A scraper tool can be used for the removal of stubborn carbon and deposits.
- Clean with hot water, a mild detergent solution and a scrubbing brush. Dry all radiants thoroughly with a dry cloth.

Main Burners

- The main burners can be cleaned with hot water, a recommended detergent solution and a scrubbing brush. Ensure that any excess water is removed from inside the burners. Dry all burners thoroughly with a dry cloth.
- Ensure that the burners are fitted correctly over the main injectors and are located properly into the recesses in the chargrill.

Stainless Steel Surfaces

- With the grates, (griddle plates if fitted) radiants and main burners removed, Clean the interior and exterior surfaces of the chargrill with hot water, detergent solution and a soft scrubbing brush. Note that the gas control knobs are a push fit onto the gas control valve spindles and can be removed to allow cleaning of the front control panel.
- Dry all components thoroughly with a dry cloth and polish with a soft dry cloth.
- To remove any discolouration, use an approved stainless steel cleaner or stainless steel wool. Always rub in the direction of the grain.
- Remove and clean the grease tray frequently to avoid spillages**.**

Griddle Plate (Cast Iron) (Optional Extra)

- Clean the griddle surface thoroughly with a wire brush or a flexible spatula. If necessary use a griddle stone or a scotch bright pad on the griddle surface.
- A scraper tool can be used for the removal of stubborn carbon and deposits.
- Occasionally bleach the griddle plate with vinegar when the plate is cold.
- Clean with hot water, a mild detergent solution and a scrubbing brush. Dry all components thoroughly with a dry cloth.
- The chargrill should be switched on briefly to ensure the griddle plate becomes dry. A thin smear of cooking oil should be spread over the grates in order to form a protective film.

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5 Trouble-shooting

WARNING: ALL INSTALLATION AND SERVICE REPAIR WORK MUST BE CARRIED OUT BY QUALIFIED PERSONS ONLY.

5.1 Trouble-shooting Chart

Fault	Possible Cause	Remedy
Pilot won't light	Gas pressure incorrect.	Check gas pressure and adjust if necessary.
	Pilot injector blocked / incorrect size.	Check injectors and replace if necessary.
	Piezo ignitor faulty. **(Refer fault diagnosis 5.1.1)**	Replace piezo ignitor. **(Refer service section 6.2.7)**
Pilot drops out when knob released	Releasing knob before thermocouple is heated.	Hold control in for longer, see if pilot will stay alight.
	Faulty thermocouple. **(Refer fault diagnosis 5.1.2)**	Replace thermocouple. **(Refer service section 6.2.1)**
	Pilot injector blocked / incorrect size.	Check injectors and replace if necessary.
	Gas valve magnet faulty. **(Refer fault diagnosis 5.1.2)**	Replace valve magnet. **(Refer service section 6.2.10)**
Pilot goes out when main burners come on	Incorrect gas pressure.	Check supply / adjust pressure.
	Faulty thermocouple. **(Refer fault diagnosis 5.1.2)**	Replace thermocouple. **(Refer service section 6.2.1)**
	Faulty gas control valve.	Replace gas control valve. **(Refer service section 6.2.9)**
Main burners will not light	Wrong size or blocked injectors.	Replace / clean injectors. **(Refer service section 6.2.6)**
	Faulty gas control valve.	Replace gas control valve. **(Refer service section 6.2.9)**
	Incorrect supply pressure.	Check supply correct pressure.
Burner goes out while in use	Incorrect or fluctuating gas pressure.	Check gas pressure and adjust if necessary.
	Small pilot flame—pilot injector blocked or incorrect size.	Check injectors and replace if necessary. **(Refer service section 6.2.2)**
	Main injector blocked / incorrect size.	Check injectors and replace if necessary. **(Refer service section 6.2.6)**
Burner flame incorrect colour (yellow)	Burner aeration incorrectly set.	Adjust burner aeration.
Gas control stiff to operate	Gas control requires regreasing.	Regrease gas control. **(Refer service section 6.3.1)**

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5.2 Fault Diagnosis

5.2.1 Pilot won't light

Short in high tension lead

If repeated sparking of the piezo shows intermittent sparking at the electrode, then the lead should be traced to find area of short. This can normally be visually seen as the spark arcs. If the lead is shorting the best solution is to replace it, as the electrical insulation strength of the lead may have deteriorated.

If the spark arc can be seen at the electrode insulator at the pilot burner instead of at the electrode tip, then the insulator probably has a fracture and should be replaced.

Piezo ignitor faulty

If no spark at all can be generated, remove piezo ignitor and hold close to cabinet body, depress piezo ignitor and if a spark cannot be generated to cabinet body the piezo ignitor is faulty and should be replaced.

NOTE: If piezo ignition fails, the pilots can be manually lit in the interim until the piezo circuit is repaired. A standard taper torch or matches/ lighter can be used for manual back-up ignition.

5.2.2 Pilot drops out

Pilot flame too small

If pilot can be lit but the flame is too small to impinge on the thermocouple, then check the gas pressure. If ok, remove pilot injector from pilot burner and check for blockages and/or correct size.

Thermocouple faulty

Check thermocouple connection to gas control is firm (loose connections will cause resistance in millivolt circuit and result in pilot outage).

If connection is OK, then disconnect the thermocouple from the gas control, light the pilot, and whilst holding the control knob in, measure voltage between the thermocouple and earth (e.g. the body of the gas control). This should read approximately 30mV. If this reading is less than 10mV then the thermocouple is faulty—replace.

Gas magnet faulty

If thermocouple millivoltage is above 10mV and the pilot still will not hold then the gas magnet is faulty - replace.

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6 Service Procedures

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WARNING:

ALL INSTALLATION AND SERVICE REPAIR WORK MUST BE CARRIED OUT BY QUALIFIED PERSONS ONLY.

ENSURE GAS SUPPLY IS SWITCHED OFF BEFORE SERVICING

ALWAYS CHECK / TEST FOR GAS LEAKS AFTER SERVICE REPAIRS ON THE GAS SYSTEM

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6.1 Access

6.1.1 Control panel

1) Remove control knobs by pulling firmly away from control panel.
2) Remove 2 cap screws securing control panel to barbecue.
3) Panel can now be removed from unit.
4) H.T leads may be required to be disconnected if control panel is to be removed away from the BBQ.

Figure 6.1.1

6.2 Replacement

6.2.1 Thermocouple

1) Remove control panel (refer 6.1.1).
2) Undo the thermocouple from the pilot assembly.

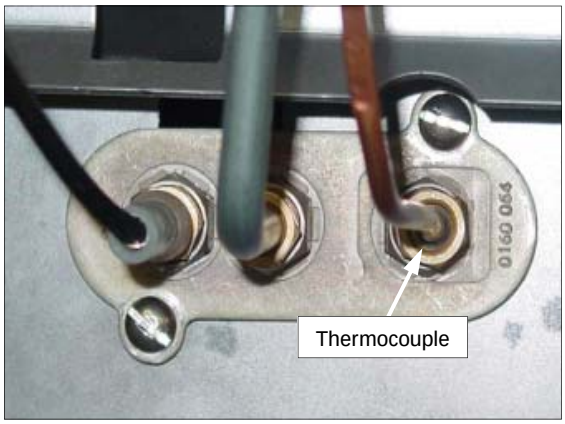

Figure 6.2.1a

3) Undo the thermocouple from the gas control. The thermocouple can now be removed.
4) Replace and reassemble in reverse order.

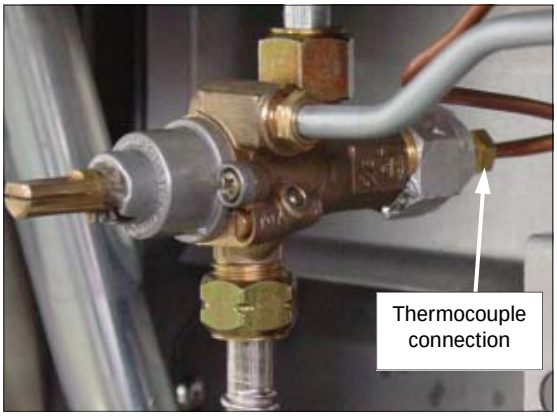

Figure 6.2.1b

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6.2.2 Pilot injector

1) Remove control panel (refer 6.1.1).
2) Remove pilot supply tube from pilot burner.
3) Remove injector and clean or replace as necessary.

Note: Ensure that correct size injector is refitted to the unit (refer specifications section).

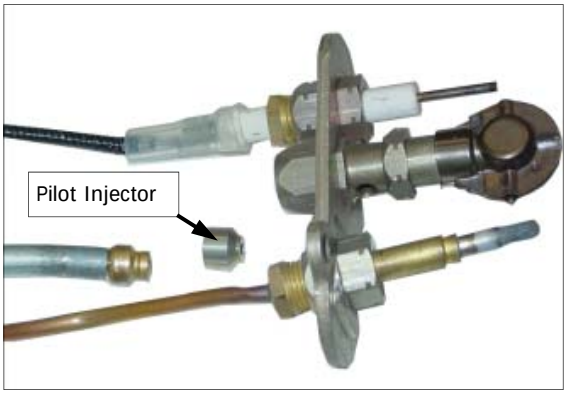

Figure 6.2.2

6.2.3 Spark electrode

1) Remove control panel (refer 6.1.1).
2) Remove HT lead from spark electrode.
3) Remove spark electrode from pilot burner.
4) Replace and reassemble in reverse order.

Note: Inspect spark electrode to make sure that ceramic is not cracked or damaged before installing.

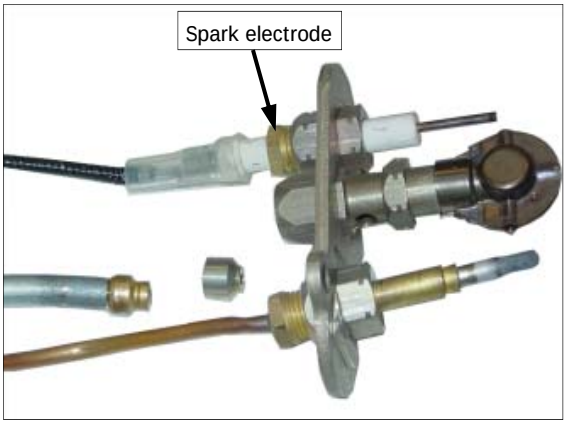

Figure 6.2.3

6.2.4 Pilot burner

1) Remove control panel (refer 6.1.1).
2) Remove thermocouple, piezo, and pilot supply tube and injector from the pilot burner.

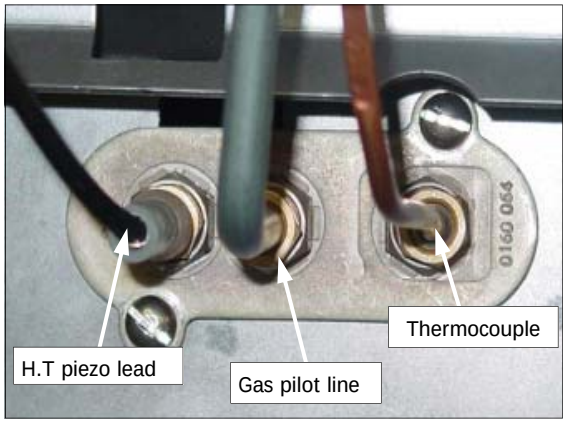

Figure 6.2.4a

3) Remove the two screws securing the pilot burner to the barbecue.

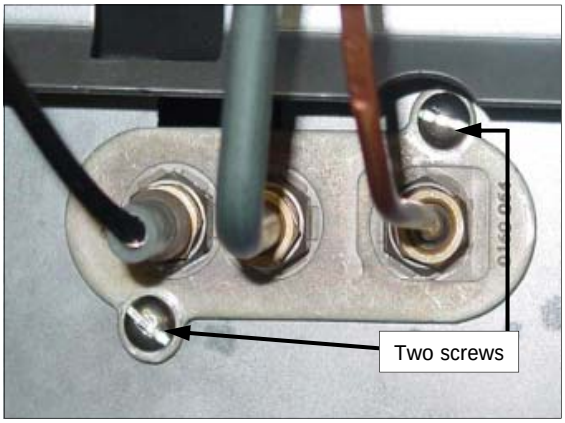

Figure 6.2.4b

4) Replace pilot burner and reassemble in reverse order.

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6.2.5 Main burner

1) Remove the top grate and radiant castings relevant to the burner to be removed.
2) Slide the burner out from its supports.

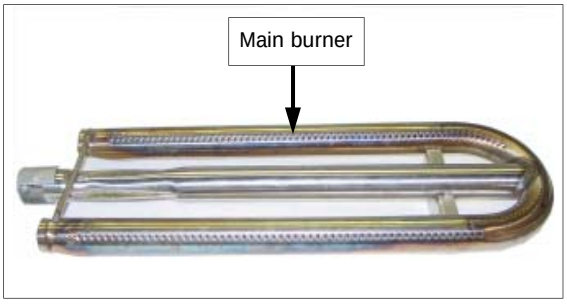

Figure 6.2.5

4) Replace and reassemble in reverse order.

6.2.6 Main burner injectors

1) Remove the control panel (refer 6.1.1).
2) Remove burner (refer 6.2.5).
3) Unscrew the burner injector.
3) Clean or replace as required.

Note: Ensure that the correct size injector is refitted to the unit (refer specifications section).

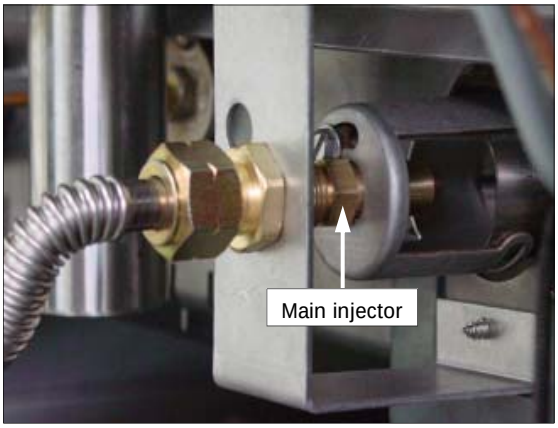

Figure 6.2.6

6.2.7 Piezo ignitor

1) Remove control panel (refer 6.1.1).
2) Remove the HT lead from the piezo ignitor by pulling firmly away.
3) Unscrew the nut securing the piezo ignitor to the control panel.

Figure 6.2.7

4) Replace and reassemble in reverse order.

6.2.8 H.T lead

1) Remove control panel (refer 6.1.1) and remove HT lead from piezo ignitor.
2) Remove HT lead from piezo electrode, replace and reassemble in reverse order.

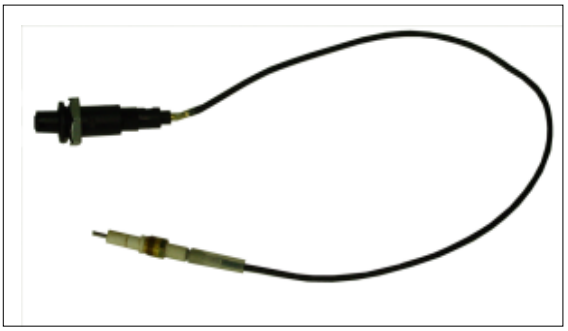

Figure 6.2.8

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6.2.9 Gas control valve

1) Remove control panel (refer 6.1.1).
2) Undo pilot supply, main supply and disconnect pilot thermocouple from gas control.

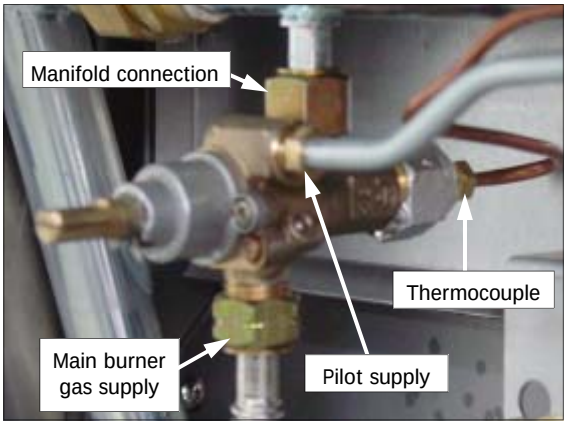

Figure 6.2.9

3) Undo compression nut securing gas control to the manifold assembly.
4) Replace gas control and re-assemble in reverse order.

Note: Ensure that the correct size injector is refitted to gas control (refer specifications section).

5) Adjust low fire setting (refer 6.3.2).

6.2.10 Gas control magnet

1) Remove control panel (refer 6.1.1).
2) Undo pilot supply, main supply and disconnect pilot thermocouple from gas control.
3) Undo compression nut securing gas control to the manifold assembly.
4) Remove the gas control.
5) On suitable work surface, remove rear nut from gas control.
6) Extract gas magnet.
7) Replace and reassemble in reverse order.

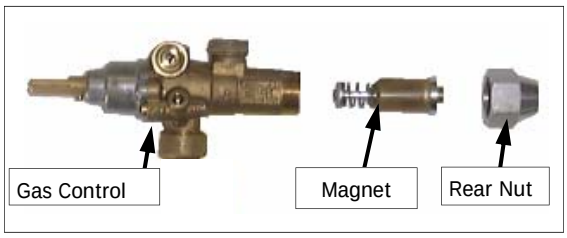

Figure 6.2.10

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6.3 Adjustment / Calibration

6.3.1 Gas control re-greasing

1) Remove control panel (refer 5.2.1).
2) Remove 2 screws holding shaft plate to gas control body and remove control shaft and plate. Note orientation of shaft for correct re-assembly.

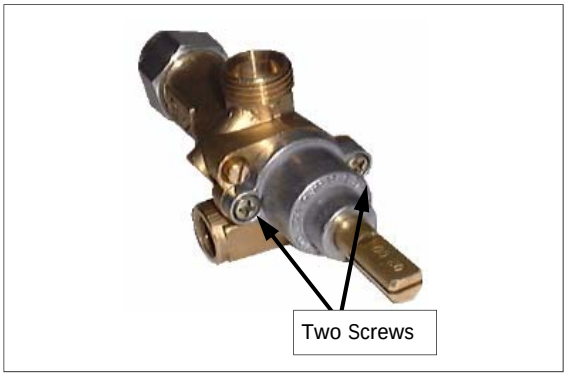

Figure 6.3.1a

3) Using needle nose pliers or similar, pull out gas control spindle, again noting its orientation.

Figure 6.3.1b

4) Apply a suitable high temperature gas cock grease or lubricant such as ROCOL - A.S.P (Anti scuffing paste) / Dry Moly Paste to the outside of the spindle.
5) Replace spindle and re-assemble gas control in reverse order.

6.3.2 Low fire rate adjustment

1) Remove control panel (refer 5.2.1).
2) Light barbecue and set gas control to low position.
3) Remove gas control knob, and using a small flathead screwdriver, adjust the low fire screw until the desired flame setting is achieved.

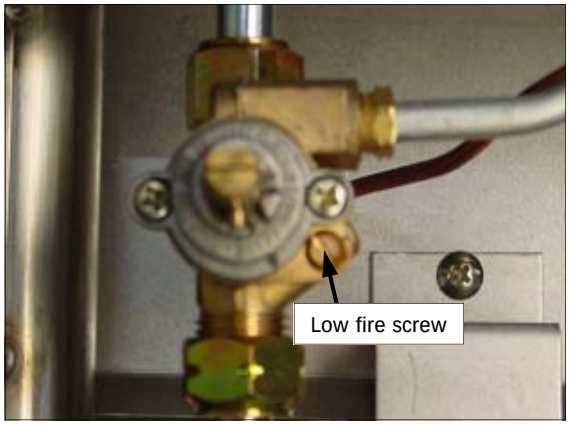

Figure 6.3.2

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7 Accessories

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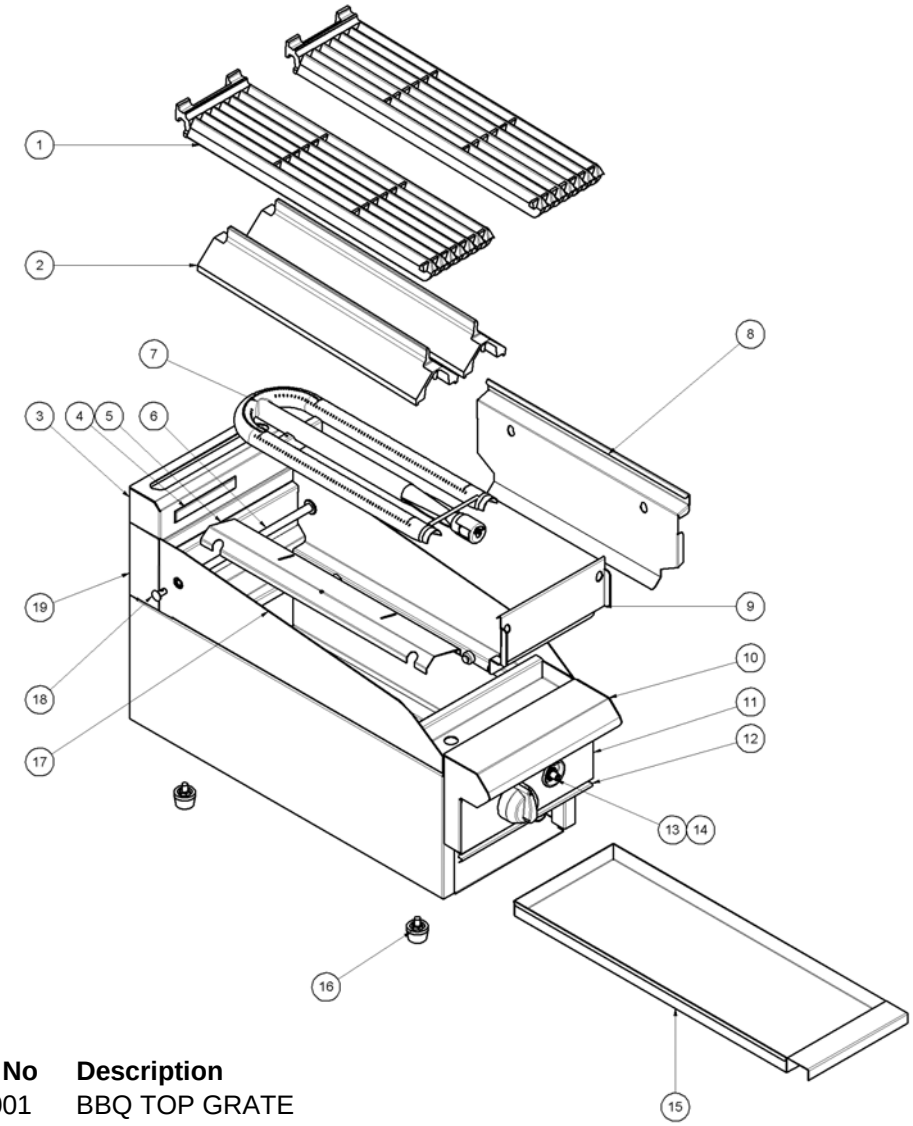
8.1 G592

8.1.1 G592 Main assembly



Item	Part No	Description
1	227001	BBQ TOP GRATE
2	014508	CASTING BURNER RADIENT
3	229577	SPLASHBACK WA
4	227960	BLUE SEAL BADGE
5	229569	BURNER SUPPORT
6	229555	GRATE SUPPORT
7	227286	BURNER
8	229679	SIDE HEAT SHIELD
9	229550	INNER RADIATION PANEL
10	229578	NOSE RAIL WA
11	229579	CONTROL PANEL
12	229580	FRONT TRIM
13	227508	PIEZO - SIT
14	228010	PIEZO HOUSING
15	229531	DRIP TRAY
16	013908	SPACER FOOT ASSY
17	229541	FRAME WA
18	227189	TUBE STOPPER
19	228173	SPLASHBACK ENDS

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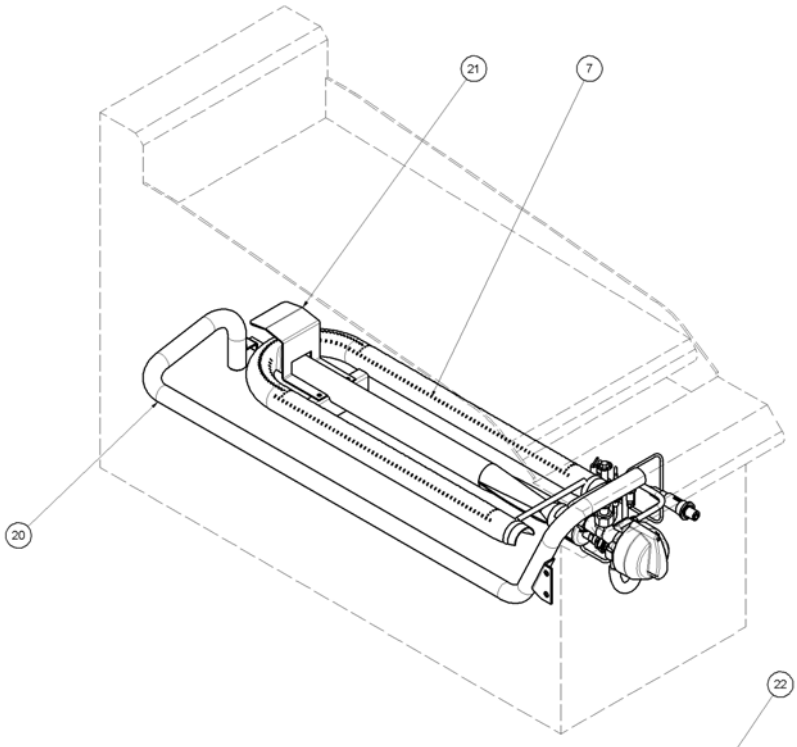
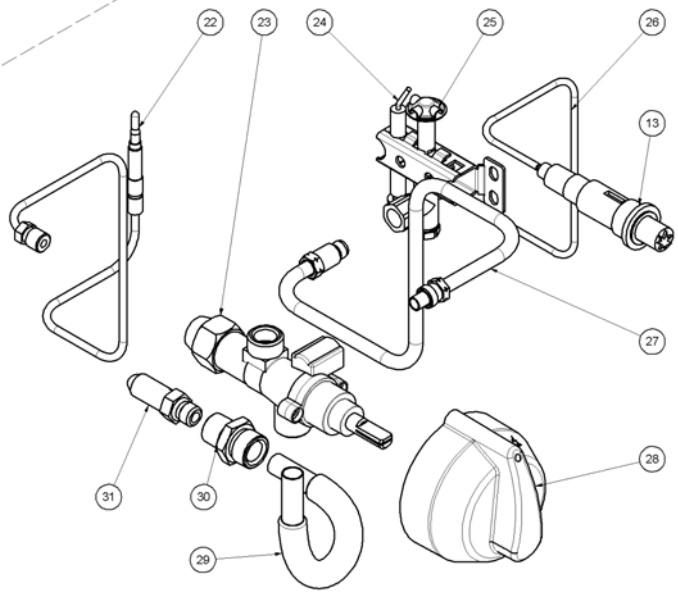
8.1.2 G592 Gas assembly





Item	Part No	Description
7	227286	BURNER
13	227508	PIEZO - SIT
20	229563	SUPPLY PIPE
21	229718	BURNER SHIELD
22	019428	THERMOCOUPLE 320MM M9x1
23	227404	GAS VALVE 21S
24	229720	SPARK ELECTRODE SIT 100 BENT
25	229719	PILOT ASSY 3 WAY 0.35MM
	227985	PILOT INJECTOR 0.35mm (NAT GAS)
	227984	PILOT INJECTOR 0.25mm (LPG/PROPANE)
26	229731	HT LEAD 250mm RING TERMINAL
27	229566	PILOT TUBE
28	227378	KNOB BSEAL 8mm GAS PF
29	022686	6" FLEXITUBE
30	227375	INJECTOR MOUNTING BUSH
31	037270	INJECTOR 2.70mm (NAT GAS)
	037165	INJECTOR 1.65mm (LPG/PROPANE)

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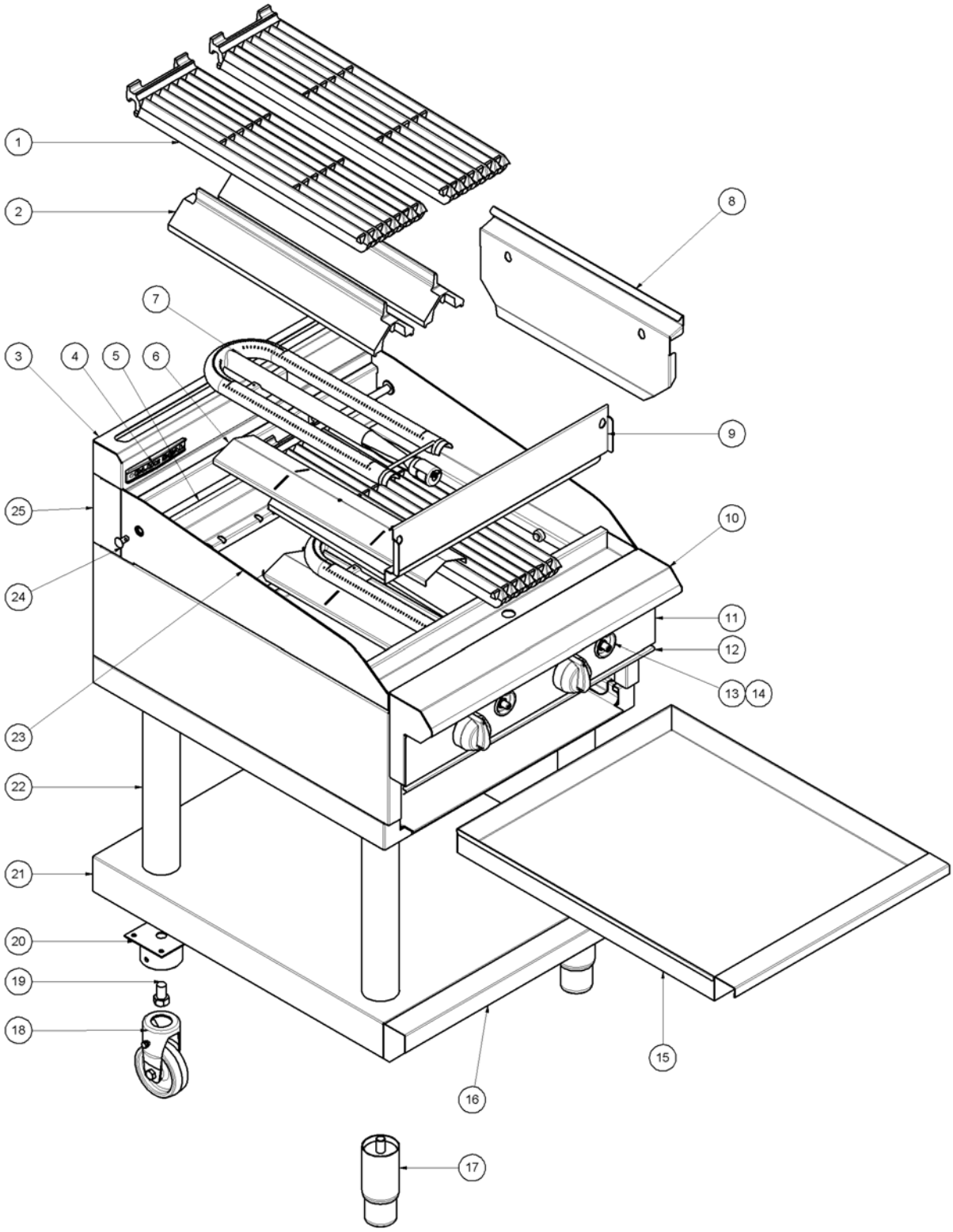
8.2 G594 Chargrill

8.2.1 G594 Main assembly



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8 Exploded Parts Diagrams

G594 Main assembly

ITEM	PART NO	DESCRIPTION
1	227001	BBQ TOP GRATE
2	014508	CASTING BURNER RADIENT
3	228653	SPLASHBACK BSEAL
4	227960	BLUESEAL BADGE
5	227263	GRATE SUPPORT
6	227445	BURNER SUPPORT
7	227286	BURNER
8	228440	BBQ SIDE HEAT SHEILD
9	227271	INNER RADIATION PANEL
10	228655	NOSE RAIL WA
11	227544	CONTROL PANEL
12	227584	FRONT TRIM BSEAL
13	228010	PIEZO HOUSING
14	227508	PIEZO
15	228488	CRUMB TRAY
16	227075	SILL 600mm WA
17	227851	LEG 150MM X Ø63.5 EXTD THEARD
18	229674	REAR ROLLER ASSEMBLY
19	748010	SCREW 5/8"X1 HEX SET ZP
20	229673	LEG RING PLATE PLAIN
21	227408	BASE TRAY 600MM
22	227854	LEG EXTENSION 430 X Ø63.5
23	227667	FRAME WA
24	227189	TUBE STOPPER
25	228173	SPLASHBACK ENDS

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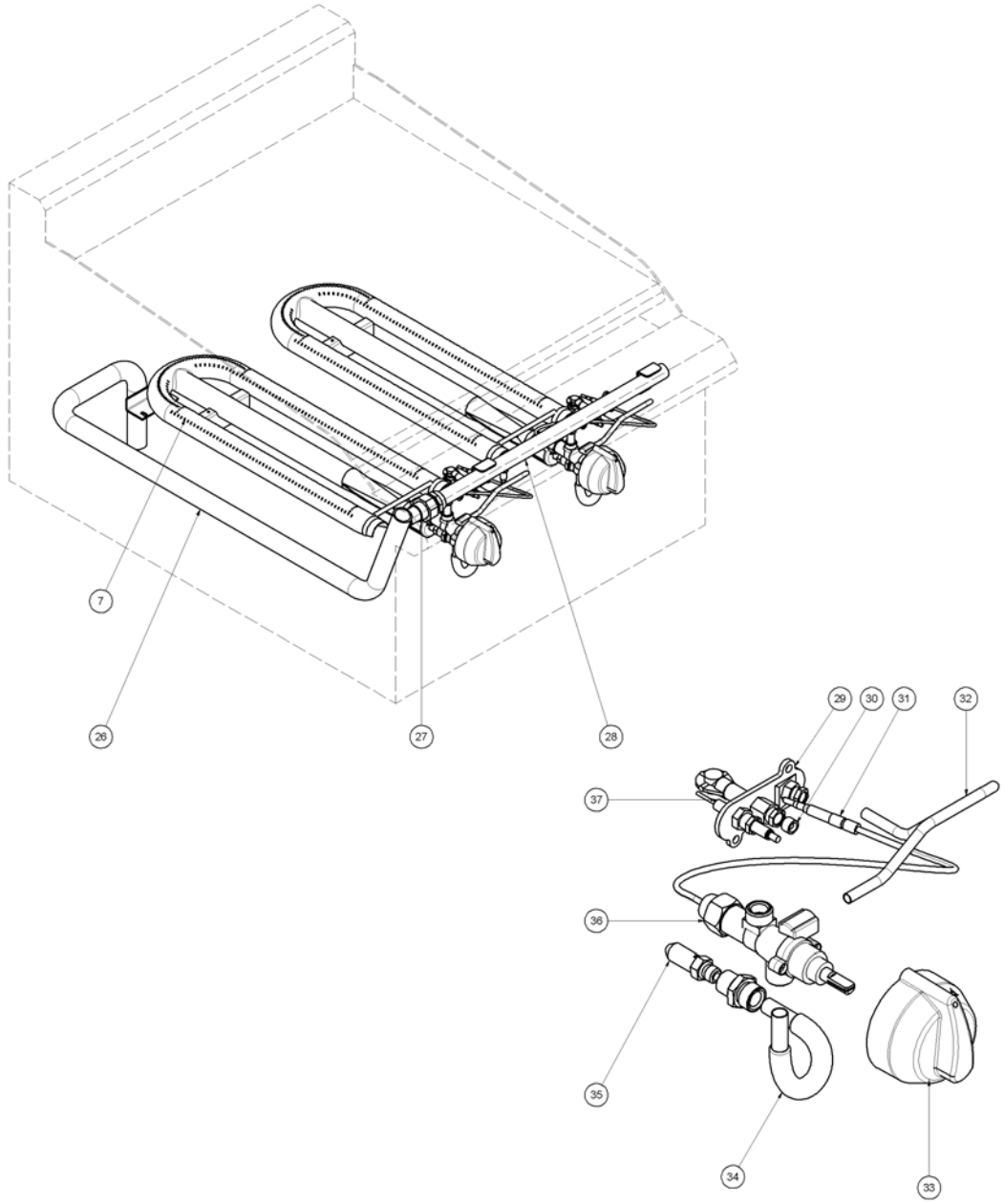
8.2.2 G594 Gas assembly



ITEM	PART NO	DESCRIPTION
7	227286	BURNER
26	227182	SUPPLY PIPE WA
27	016044	UNION BRASS CONICAL ½ BSPT
28	227248	MANIFOLD
29	019464K	PILOT BURNER KIT
30	019593	PILOT SPUD - NAT 0.41mm
	019594	PILOT SPUD - LPG/PROPANE 0.25mm
31	019218	THERMOCOUPLE 450MM
32	227287	PILOT SUPPLY TUBE
33	227378	KNOB BSEAL 8mm GAS PF
34	022686	6" FLEXITUBE
35	037270	INJECTOR NAT GAS 2.70 mm
	037165	INJECTOR LPG/PROPANE 1.65mm
36	227404	GAS VALVE 21S
37	019624	ELECTRODE

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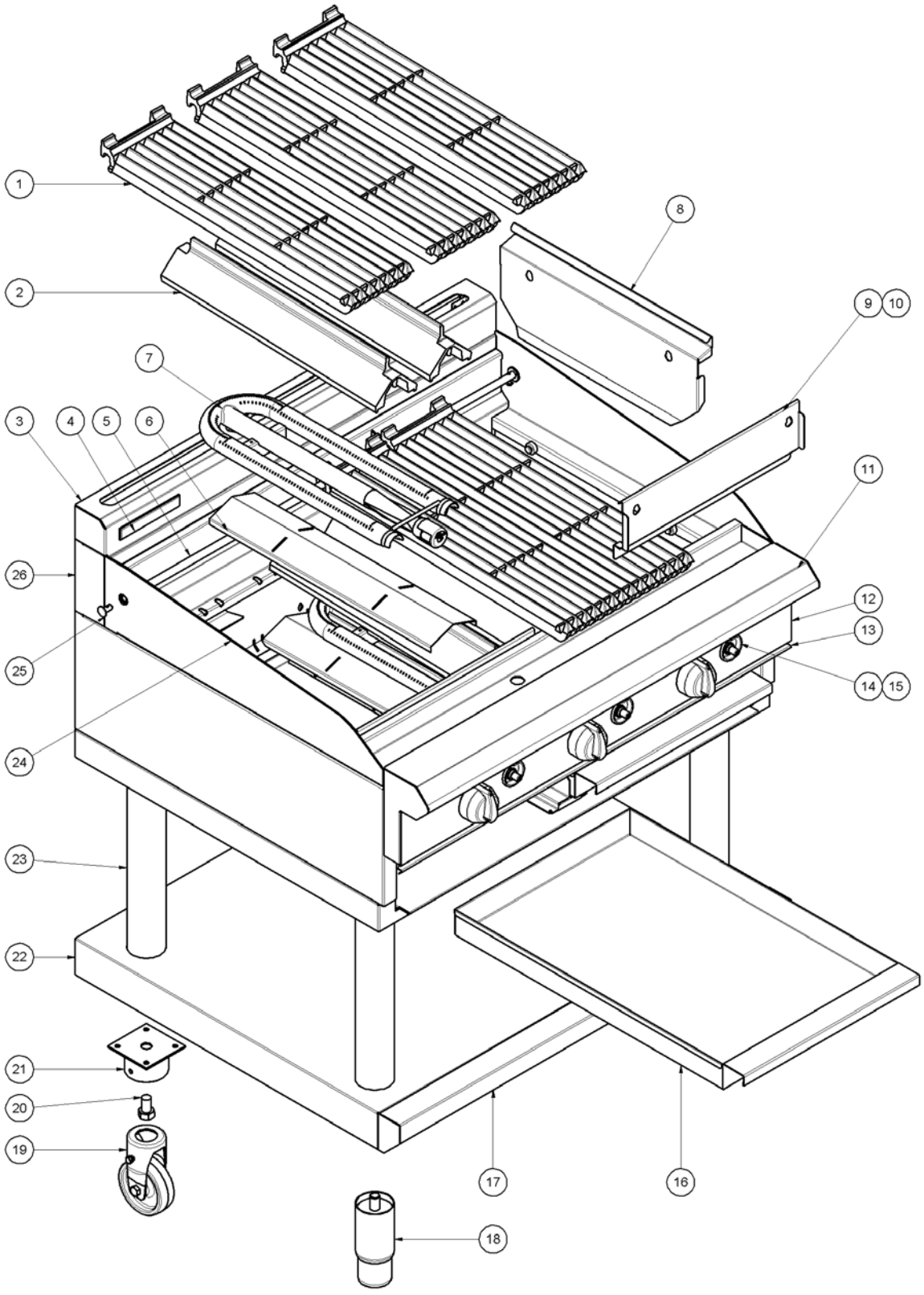
8.3 G596 Chargrill

8.3.1 G596 Main assembly



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G596 Main assembly

ITEM	PART NO	DESCRIPTION
1	227001	BBQ TOP GRATE
2	014508	CASTING BURNER RADIENT
3	228656	SPLASHBACK BSEAL
4	227960	BLUE SEAL BADGE
5	227188	GRATE SUPPORT
6	227169	BURNER SUPPORT
7	227286	BURNER
8	228440	BBQ SIDE HEAT SHEILD
9	227200	INNER RADIATION PANEL RH
10	227199	INNER RADIATION PANEL LH
11	228658	NOSE RAIL WA
12	227543	CONTROL PANEL
13	227580	FRONT TRIM BSEAL
14	228010	PIEZO HOUSING
15	227508	PIEZO BLACK BUTTON
16	228487	CRUMB TRAY
17	227901	SILL 900mm WA
18	227851	LEG 150MM X Ø63.5 EXTD THEARD
19	229674	REAR ROLLER ASSEMBLY
20	748010	SCREW 5/8"X1 HEX SET ZP
21	229673	LEG RING PLATE PLAIN
22	227407	BASE TRAY 900MM
23	227854	LEG EXTENSION 430 X Ø63.5
24	227671	FRAME WA
25	227189	TUBE STOPPER
26	228173	SPLASHBACK ENDS

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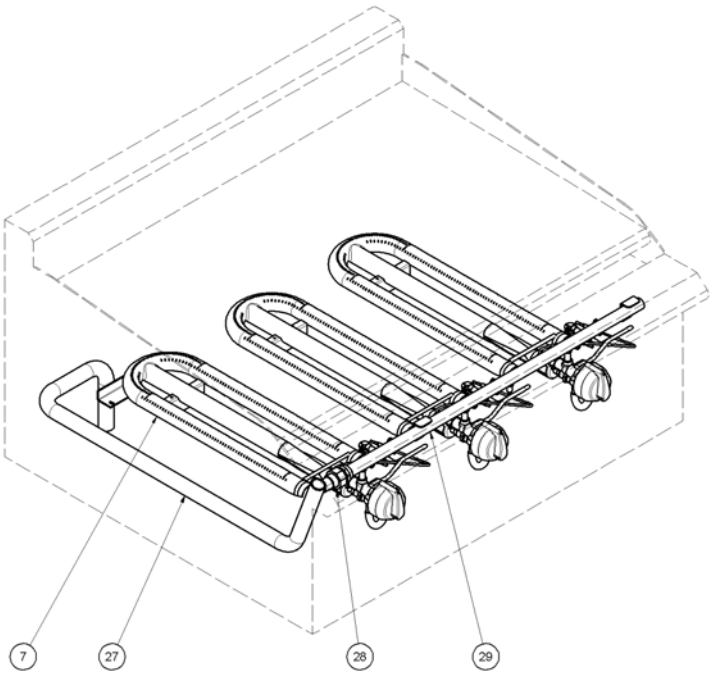
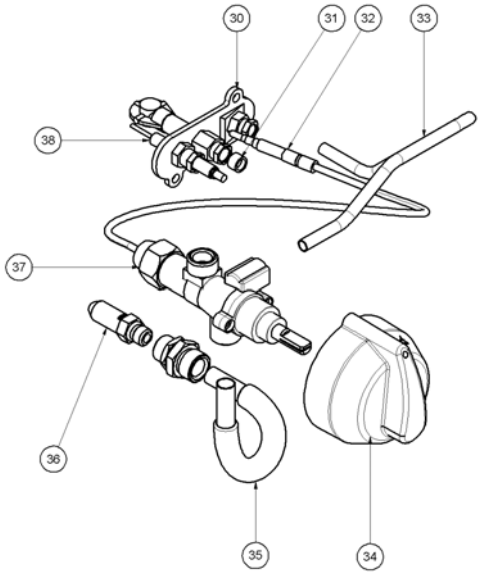
8.3.2 G596 Gas assembly





ITEM	PART NO	DESCRIPTION
7	227286	BURNER
27	227182	SUPPLY PIPE WA
28	016044	UNION BRASS CONICAL ½ BSPT
29	227187	MANIFOLD
30	019464K	PILOT BURNER KIT
31	019593	PILOT SPUD - NAT 0.41mm
	019594	PILOT SPUD - LPG/PROPANE 0.25mm
32	019218	THERMOCOUPLE 450MM
33	227287	PILOT SUPPLY TUBE
34	227378	KNOB BSEAL 8mm GAS PF
35	022686	6" FLEXITUBE
36	037270	INJECTOR NAT GAS 2.70 mm
	037165	INJECTOR LPG/PROPANE 1.65mm
37	227404	GAS VALVE 21S
38	019624	ELECTRODE

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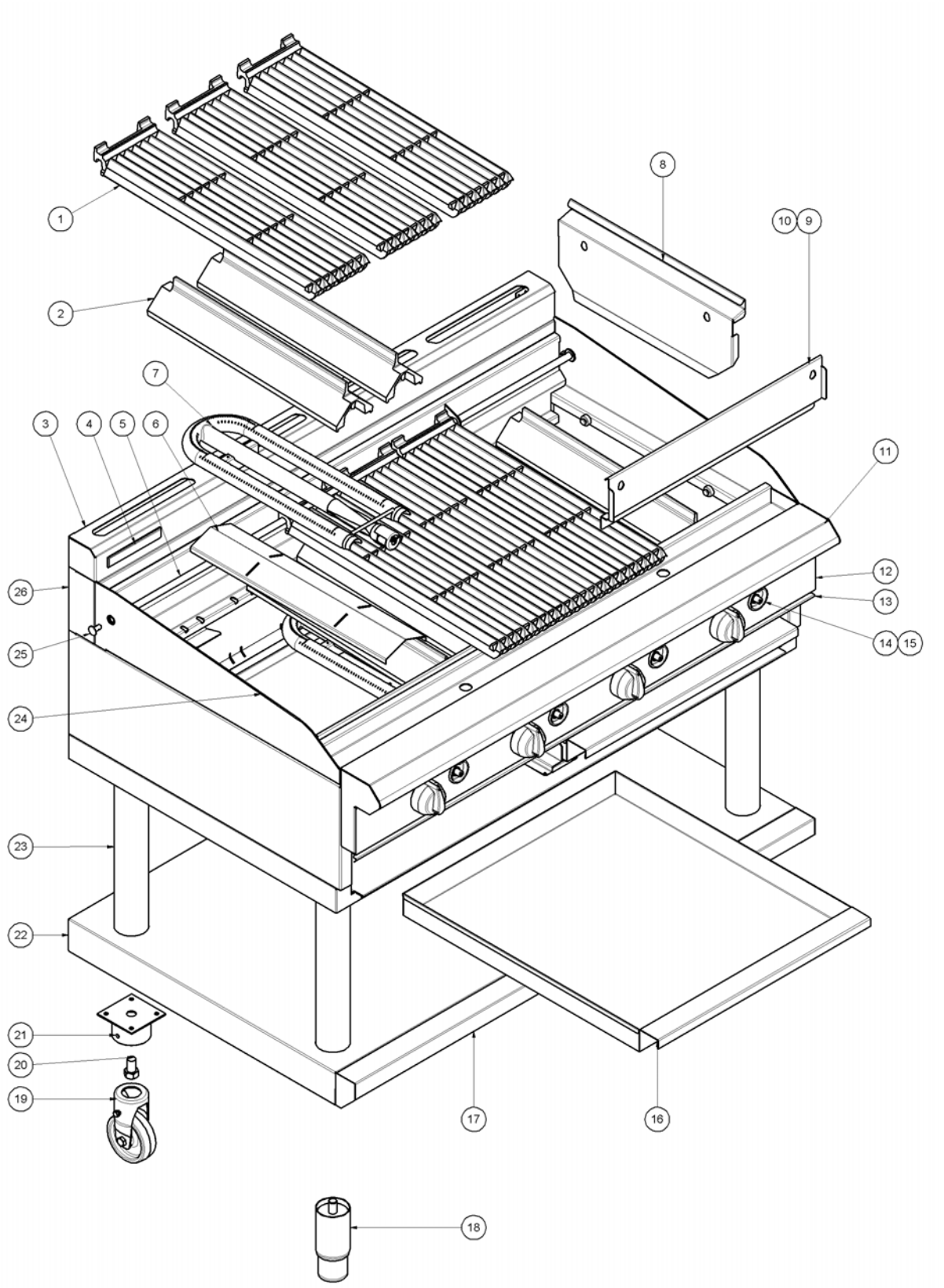
8.4 G598 Chargrill

8.4.1 G598 Main assembly



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G598 Main assembly

ITEM	PART NO	DESCRIPTION
1	227001	BBQ TOP GRATE
2	014508	CASTING BURNER RADIENT
3	228652	SPLASHBACK BSEAL
4	227960	BLUE SEAL BADGE
5	227264	GRATE SUPPORT
6	227169	BURNER SUPPORT
7	227286	BURNER
8	228440	BBQ SIDE HEAT SHEILD
9	227273	INNER RADIATION PANEL RH
10	227272	INNER RADIATION PANEL LH
11	228659	NOSE RAIL WA
12	227542	CONTROL PANEL
13	227581	FRONT TRIM BSEAL
14	228010	PIEZO HOUSING
15	227508	PIEZO BLACK BUTTON
16	228489	CRUMB TRAY
17	227902	SILL 1200 WA
18	227851	LEG 150MM X Ø63.5 EXTD THEARD
19	229674	REAR ROLLER ASSEMBLY
20	748010	SCREW 5/8"X1 HEX SET ZP
21	229673	LEG RING PLATE PLAIN
22	227409	BASE TRAY 1200MM
23	227854	LEG EXTENSION 430 X Ø63.5
24	227669	FRAME WA
25	227189	TUBE STOPPER
26	228173	SPLASHBACK ENDS

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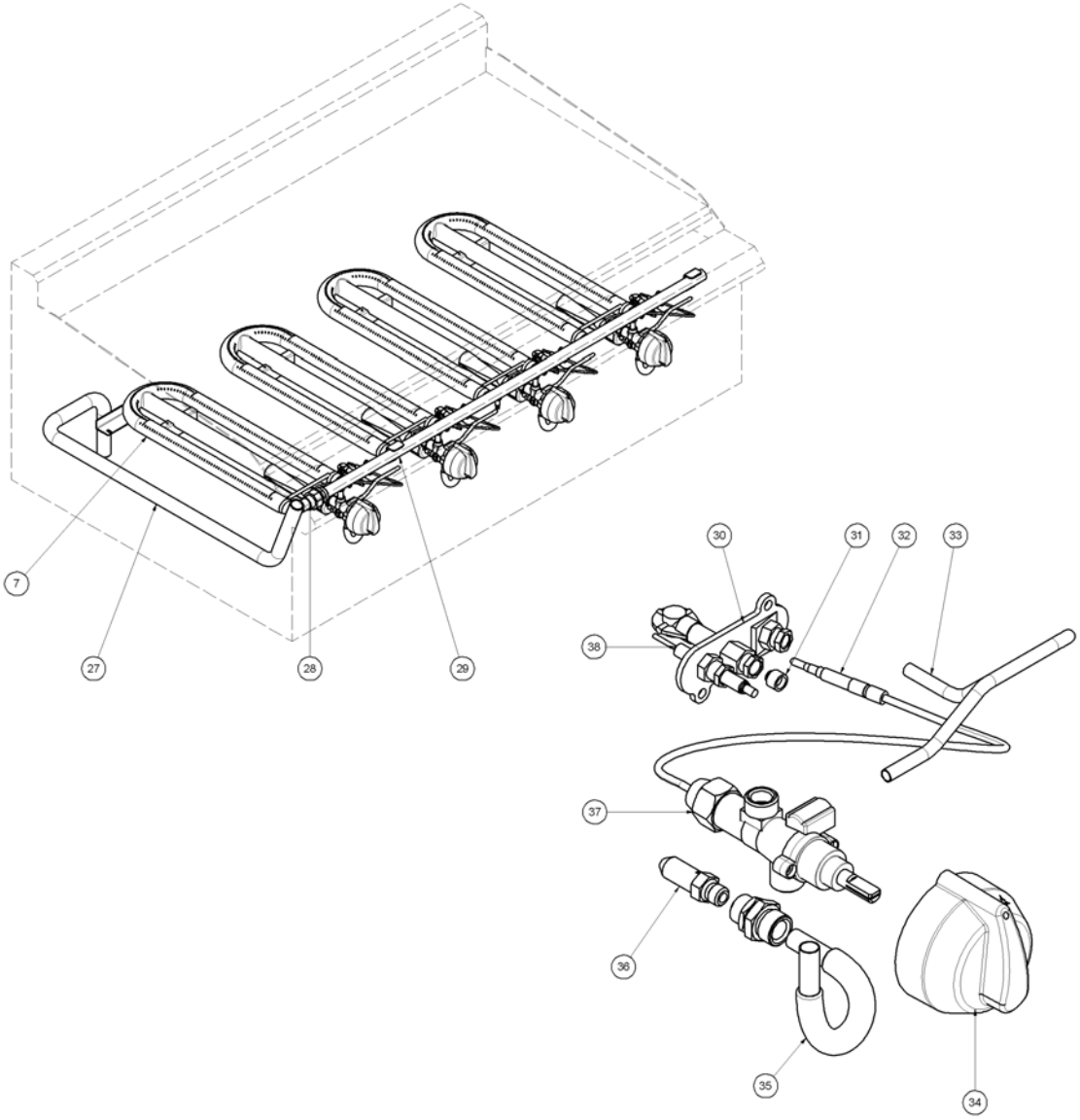
8.4.2 G598 Gas assembly



ITEM	PART NO	DESCRIPTION
7	227286	BURNER
27	227182	SUPPLY PIPE WA
28	016044	UNION BRASS CONICAL ½ BSPT
29	227249	MANIFOLD
30	019464K	PILOT BURNER KIT
31	019593	PILOT SPUD - NAT 0.41mm
	019594	PILOT SPUD - LPG/PROPANE 0.25mm
32	019218	THERMOCOUPLE 450MM
33	227287	PILOT SUPPLY TUBE
34	227378	KNOB BSEAL 8mm GAS PF
35	022686	6" FLEXITUBE
36	037270	INJECTOR NAT GAS 2.70 mm
	037165	INJECTOR LPG/PROPANE 1.65mm
37	227404	GAS VALVE 21S
38	19624	ELECTRODE

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9 Service Contacts

Australia

VICTORIA - MOFFAT PTY
HEAD OFFICE AND MAIN WAREHOUSE
740 Springvale Road
Mulgrave VIC 3170
Spare Parts Department

Tel (03) 9518 3888
Fax (03) 9518 3838
Free Call 1800 337 963
Fax (03) 9518 3895

NEW SOUTH WALES - MOFFAT PTY
Unit 3/142 James Ruse Drive
Rosehill NSW 2142
Spare Parts

Tel (02) 8833 4111

Free Call 1800 337 963
Fax (03) 9518 3895

QUEENSLAND - MOFFAT PTY
30 Prosperity Place
Geebung QLD 4034
Spare Parts

Tel (07) 3630 8600

Free Call 1800 337 963
Fax (03) 9518 3895

WESTERN AUSTRALIA - MOFFAT PTY
67 Howe St
Osbourne Park, WA 6017
Spare Parts

Tel (08) 9202 6820
Fax (08) 9202 6836
Free Call 1800 337 963
Fax (03) 9518 3895

NATIONAL COVERAGE FOR 24 HOUR SERVICE OR MAINTENANCE DIAL FREE CALL 1800 622 216 (AUSTRALIA ONLY)

Canada

SERVE CANADA
22 Ashwarren Rd
Downview
Ontario M3J1Z5

Tel 416-631-0601
Fax 416-631-0315

New Zealand

CHRISTCHURCH - MOFFAT LTD
16 Osborne St
PO Box 10-001
Christchurch
Spare Parts

Tel (03) 389 1007
Fax (03) 389 1276

Free Call 0800 MOFFAT
(0800 66 33 28)
Fax (03) 381 3616

AUCKLAND - MOFFAT LTD
4 Waipuna Road
Mt Wellington
Auckland
Spare Parts

Tel (09) 574 3150
Fax (09) 574 3159

Free Call 0800 MOFFAT
(0800 66 33 28)

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United Kingdom

BLUESEAL LTD
67 Gravelly Industrial Park
Erdington
Birmingham B24 8TQ
England

Tel 0121 327 5575
Fax 0121 327 9711

United States of America

MOFFAT INC.
3765 Champion Blvd
Winston-Salem
NC27115

Tel 1800 551 8795
Fax 336 661 9546

NATIONAL COVERAGE FOR SERVICE OR MAINTENANCE DIAL
FREE CALL 1800 551 8795 (USA ONLY)

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Conversion Procedure

NOTE:

- **These conversions should only be carried out by qualified persons. All connections must be checked for leaks before re-commissioning appliance.**
- **Adjustment of components that have adjustments/settings sealed (e.g. paint sealed) can only be adjusted in accordance with the following instructions and shall be re-sealed before re-commissioning this appliance.**
- **For all relevant gas specifications refer to the table at the end of this section.**

CAUTION:

Ensure that the Unit is isolated from the gas supply before commencing servicing.

G594 / G596 / G598 Models Only

Main Burners

1. Remove the gas control knobs from the front control panel. The control knobs are a push fit onto the shaft of the gas control valves.
2. Remove the front control panel by slackening the 2 screws on the front lower edges of the control panel and remove the panel from the front of the Chargrill.
3. Remove the Chargrill castings/griddle plates and inner radiants to reveal the burners.

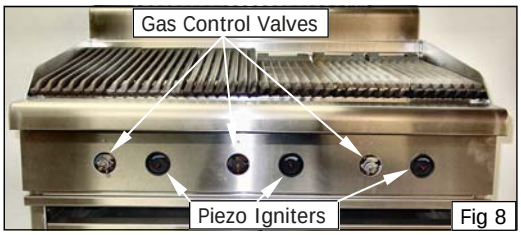

Fig 8

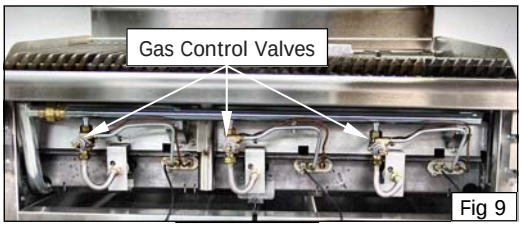

Fig 9

4. Carefully push the main burners forwards and negotiate between the shield brackets fitted over the end of the burners and remove the burners from the Chargrill to reveal the main burner injectors.

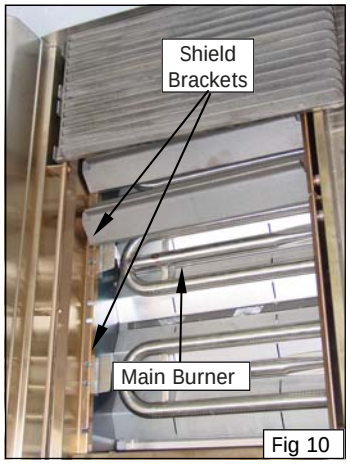

Fig 10

5. Unscrew the main burner injectors from the Chargrill using a 13mm / $^{1}/_{2}$ " A/F spanner.
6. Determine the correct injector sizes for the corresponding gas, from the rating plate affixed behind the control panel next to the manifold test point.
7. Replace with the correct size injectors.
8. Refit the main burner castings, griddle plates and inner radiants to the Chargrill.

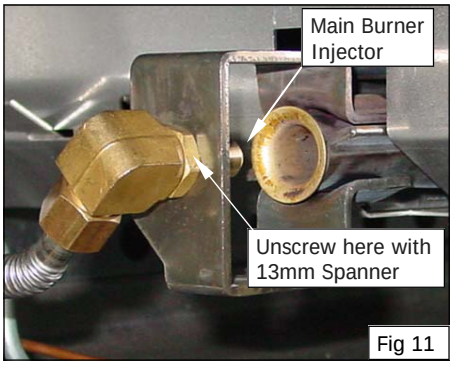

Fig 11

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Pilot Burners

1. To remove the pilot burner, disconnect the gas supply tube from the base of the pilot burner.

NOTE; Do not remove the mounting plate securing the pilot burner and thermo couple to the Chargrill. Fig 14 shows Pilot Burner Retaining Plate removed for clarity only.

2. Unscrew the base nut from the pilot burner and using a small screwdriver,withdraw injector from inside the pilot burner.
3. Determine the correct injector size for the corresponding gas from the rating plate attached to the inner bulkhead adjacent to the manifold test point behind the front control panel.
4. Fit the new pilot injector into the rear of the pilot burner and push fully home.
5. Re-connect the gas supply tube to the base of the pilot burner and tighten.

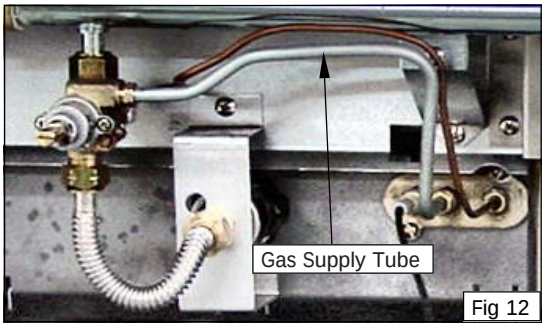

Fig 12

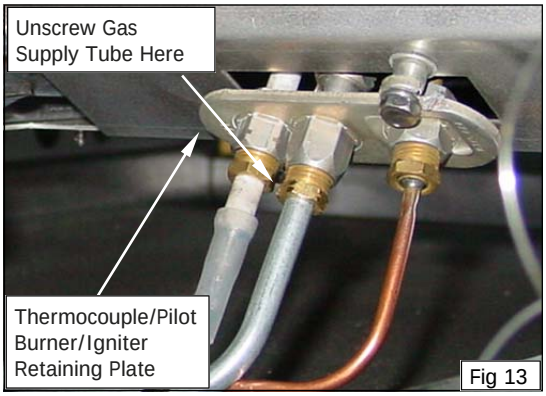

Fig 13

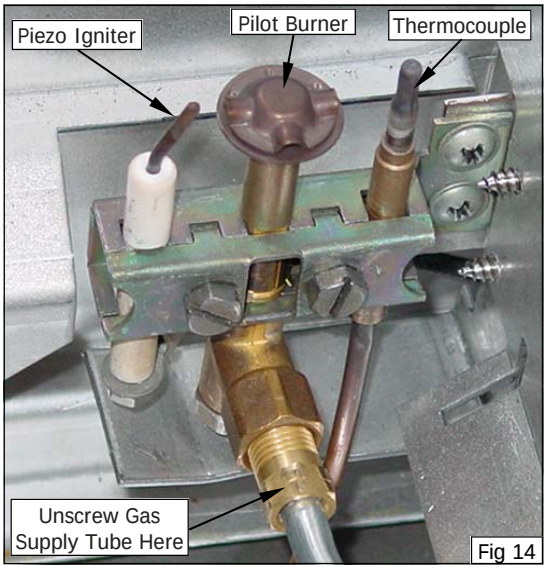

Fig 14

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A Appendix A: Gas Type Conversion

G592 Model Only

Main Burner

1. Remove the gas control knob from the front control panel. The control knob is a push fit onto the shaft of the gas control valve.
2. Remove the front control panel by slackening the 2 x 8 mm screws on the front lower edges of the control panel and gently lift off the control panel.
3. Disconnect the cable from the rear of the piezo igniter on the rear of the control panel.
4. Remove the front control panel from the front of the Chargrill.
5. Remove the Chargrill castings/griddle plates and inner radiants to reveal the burner.
6. Remove the left and right inner heat shield panels (These are a slot fit onto either side of the chargrill).
7. Remove the end heat shield panel. (This is a slot fit onto the front inner face of the chargrill).
8. Carefully push the main burner forwards and remove the burner from the chargrill to reveal the main burner injector.
9. Unscrew the main burner injector from the chargrill using a 13mm / $^{1}/_{2}$ " A/F spanner.
10. Determine the correct injector size for the corresponding gas, from the rating plate affixed behind the control panel next to the manifold test point.
11. Replace with the correct size injectors.
12. Check / adjust the main burner aeration gap. This gap should be fully open.

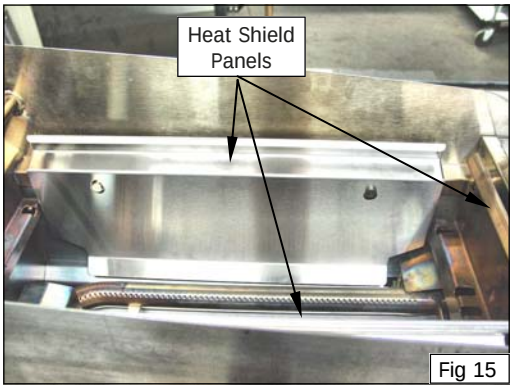

Fig 15

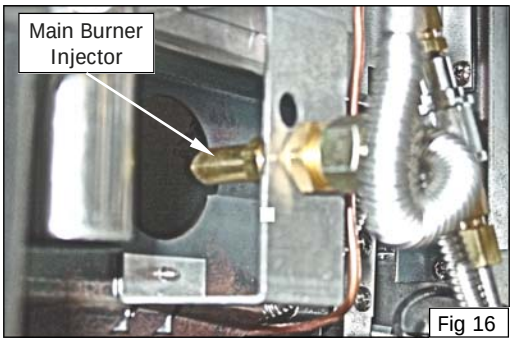

Fig 16

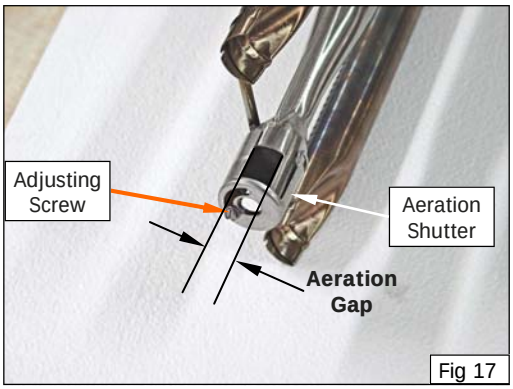

Fig 17

Pilot Burner

1. To remove the pilot burner, unscrew the 2 screws securing the pilot burner shield panel to the front inner face of the chargrill. Remove the panel from the chargrill.
2. Remove the 2 burner supports from the bottom of the chargrill.
3. Disconnect the gas connection to the pilot burner by unscrewing the connection at the base of the pilot injector using a 10 mm A/F spanner.
4. Unscrew the 2 x 8 mm screws securing clamp to the pilot bracket that retain the piezo igniter, thermocouple and pilot burner.
5. Remove the pilot burner from the pilot bracket (this is just a push fit into the bracket). **Note the orientation of the pilot burner in relation to the thermocouple and piezo igniter electrode as this is critical for the correct operation of the chargrill.**
6. Unscrew and remove the nut from the base of the Pilot Burner using a 11 mm A/F spanner.
7. Using a small flat blade screwdriver, unscrew and

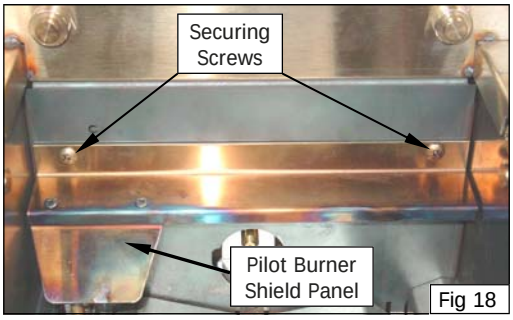

Fig 18

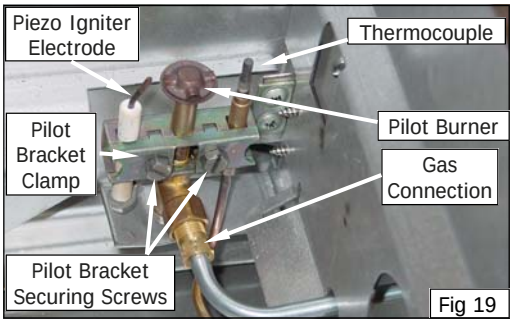

Fig 19

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remove the pilot injector and spring from the base of the pilot burner.

8. Determine the correct injector size for the corresponding gas from the rating plate attached to the inner bulkhead adjacent to the manifold test point behind the front control panel or from the table at the rear of this section.
9. Refit the pilot injector and spring into the base of the pilot burner and tighten a small flat blade screwdriver, **Do not over tighten.**
10. Refit the nut to the base of the Pilot Burner and tighten hand tight using a 11 mm A/F spanner.
11. Refit the pilot burner to the pilot burner bracket, ensuring that the pilot burner is correctly fitted into the bracket and is correctly orientated in respect to the thermocouple and piezo igniter electrode.
12. Refit the pilot burner clamp and secure with the 2 x 8 mm screws, ensuring that the pilot burner, thermocouple and piezo igniter electrode are correctly positioned and secured. Tighten up the 2 x 8 mm screws.
13. Re-connect the gas supply tube to the base of the pilot burner and tighten using a 11 mm A/F spanner.
14. Refit the main burner supports to the base of the chargrill, ensuring that they locate into the cut-outs at the front and rear of the chargrill burner box and around the pilot burner bracket.
15. Refit the pilot burner shield panel to the front inner face of the chargrill and secure in place with the 2 screws.
16. Refit the main burner and ensure that the burner locates into the cut-outs in the burner supports and that the burner locates correctly over the main injector.
17. Refit the end heat shield panel. (This is a slot fit onto the front inner face of the chargrill).
18. Refit the left and right inner radiation panels (These are a slot fit onto either side of the chargrill).
19. Refit the inner radiants and castings to the Chargrill.

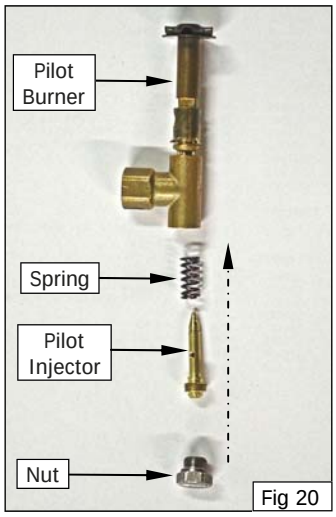

Fig 20

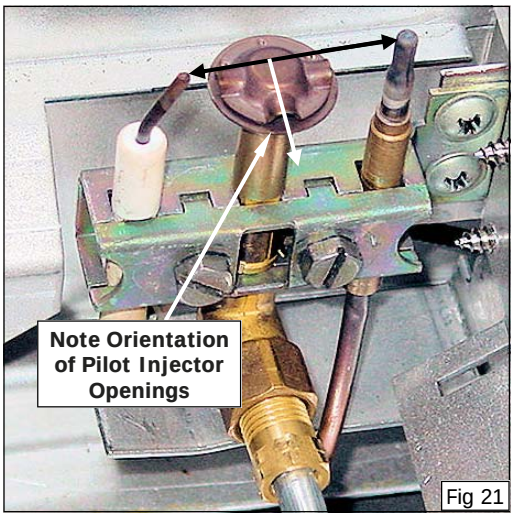

Fig 21

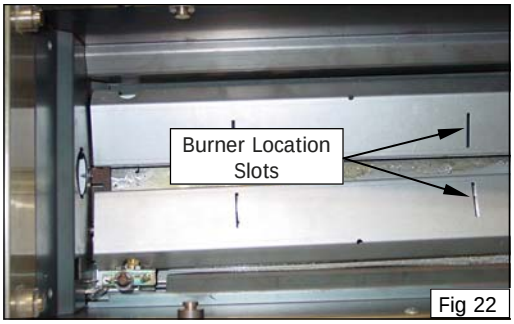

Fig 22

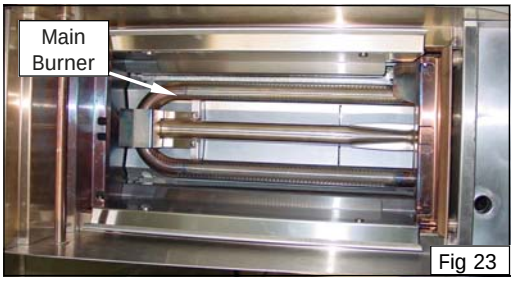

Fig 23

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Low Fire Adjustment (All Models)

1. To set the burner low fire adjustment, the low fire adjustment screw on the gas control valve should be screwed fully in, then un-screwed by the measurement shown in the "Gas Specifications" table at the end of this section.

NOTE: The "Low Fire Adjustment Screw" should be sealed with coloured paint on completion of the low fire adjustment.

2. Refit the front control panel to the chargrill and secure in position by tightening the 2 screws on the front lower edges of the control panel.
3. Refit the gas control knobs to the gas control valves. The gas control knobs are a push fit onto the shaft of the gas control valves.

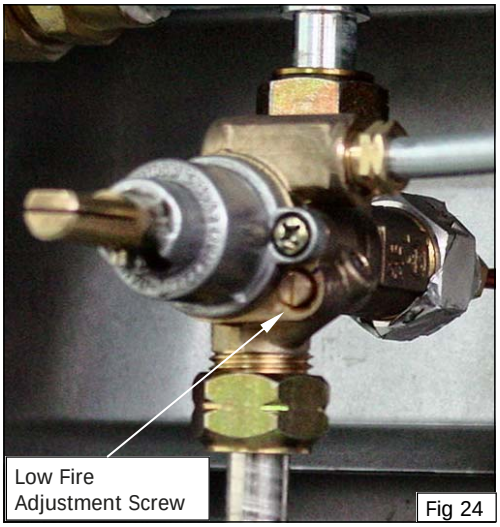

Fig 24

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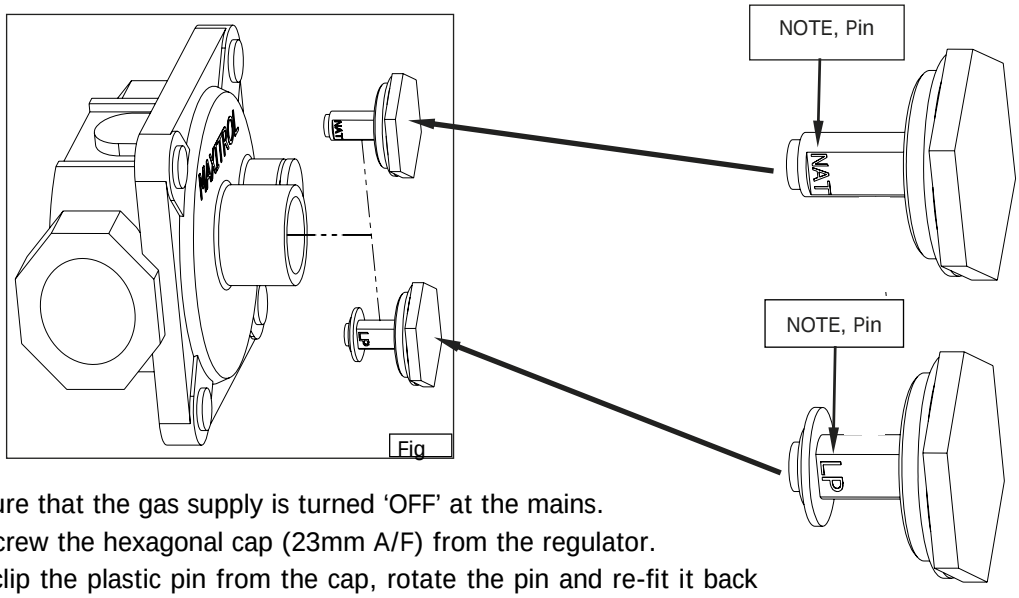
Gas Regulator

NOTE: The regulator supplied is convertible between Natural Gas and LPG, but it's outlet pressure is fixed ex-factory and is NOT to be adjusted.



1. Ensure that the gas supply is turned 'OFF' at the mains.
2. Unscrew the hexagonal cap (23mm A/F) from the regulator.
3. Un-clip the plastic pin from the cap, rotate the pin and re-fit it back to the cap the correct way for the gas type to be used. **(Either 'LP' or 'NAT' should be visible on the flank of the pin once re-fitted to the cap)**.
4. Screw the cap back into the regulator.

Gas Type Labels

On completion of the gas conversion, replace gas type labels located at:-

- The rear of the unit, above the gas connection.
- Beside the rating plate.

Commissioning

Before leaving the converted installation;

1. Check all gas connections for leakages using soapy water or other gas detecting equipment.

WARNING:

DO NOT USE A NAKED FLAME TO CHECK FOR GAS LEAKAGES.

2. Check the following functions in accordance with the operating instructions specified in the "Operation" section of this manual.
   - Light the Pilot Burners.
   - Light the Main Burners.
   - Check the Low Fire burner operation.
   - Check the High Fire burner operation.
   - Ensure that all the controls operate correctly.
   - Ensure that the operating pressure remains correct.

NOTE: If for some reason it is not possible to get the unit to operate correctly, shut off the gas supply and contact the supplier of this unit.

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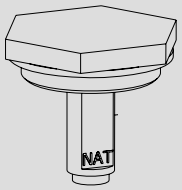
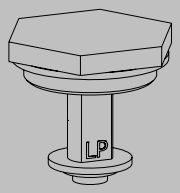
Gas Specifications

		Natural Gas (G20)		LP Gas (Propane) (G31)	
		G592	G594 G596 G598	G592	G594 G596 G598
Main Burner Injectors		2.70 mm		1.65 mm	
Pilot Burner Injectors		0.35	0.41	0.25	0.25
Low Fire Adjustment		$1^1/_4$ turns out (ccw)		½ turn out (ccw)	
Operating Pressure	**Non - UK**	1.0 kPa (*)	0.95 kPa (*)	2.5 kPa (*)	2.6 kPa (*)
	UK - Only	10.6 mbar (*)	10 mbar (*)	25 mbar (*)	26 mbar (*)
Main Burner Aeration Shutter		**Fully Open**		**Fully Open**	
Gas Regulator Cap Screw					

NOTE:

*** - The burner operating pressure is to be measured at the manifold test point with <u>one burner</u> for G592 Model or <u>two burners</u> for other models operating at full setting. The operating pressure is ex-factory set and not to be adjusted, apart from when converting between gases, if required. (Refer to the 'Gas Conversion' section for details).**

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